JAUNDICE IN
CLINICAL
BARTHOLOM

By T. L

Brunton Collection

Tracts 1608

①

JAUNDICE IN SOME OF ITS ASPECTS: A CLINICAL LECTURE DELIVERED AT ST. BARTHOLOMEW'S HOSPITAL.

By T. LAUDER BRUNTON, M.D., LL.D., F.R.S.

ROYAL COLLEGE OF SURGEONS OF ENGLAND LIBRARY

Reprinted from the Edinburgh Medical Journal. *Edinburgh and London*, Young J. Pentland, *October*, 1899.

45

JAUNDICE IN SOME OF ITS ASPECTS: A CLINICAL LECTURE DELIVERED AT ST. BARTHOLOMEW'S HOSPITAL.

By T. Lauder Brunton, M.D., LL.D., F.R.S., *Physician to St. Bartholomew's Hospital, London.*

The subject that I have chosen to talk about to-day is one of the cases which we lately had in "Elizabeth" Ward. You may remember that the patient was a woman, æt. 55. On looking at her, it was observed, first, that she was thin; secondly, that she was deeply stained of a yellow colour; and, thirdly, as could be seen, even from the other side of the ward, that the abdomen was greatly distended; so much was it distended, that it formed a large protuberance which was hardly covered by the bedclothes. First of all, on looking at her from the other side of the ward, it seemed probable that she must be suffering from cancer of the liver. The reasons for supposing that this was the disease with which she was affected were, that the abdomen was so distended and that the face was so thin. These symptoms indicated rather advanced disease of the liver, but these two symptoms might perfectly well occur without there being any malignant disease of the liver; because you can see precisely those same symptoms in a patient, æt. 41, in "Rahere" Ward. In this case the abdomen was just as large, the face was hardly so thin, but still it was thin. There was, however, one marked difference between the two: the woman in "Elizabeth" Ward was deeply jaundiced, the man in "Rahere" was not jaundiced; his face was sallow, but there was no jaundice. Now, when I went to examine the case in "Elizabeth" Ward, I expected to find the liver enormously enlarged; in fact, I had come to my diagnosis too rashly, and, as we often find when we act rashly, I was wrong. I percussed the liver, and I found that instead of being enlarged above the normal size, it appeared to be rather smaller; the edge of the liver could not be felt below the margin of the ribs. This, however, did not show that the liver was actually smaller, because it might have been pushed up by the distension of the abdomen, and post-mortem examination revealed that this was the case—that the liver was very nearly of normal size, perhaps a little larger than usual. It was certainly not smaller than normal, and the apparent diminution in size was really due to displacement of the organ by its being pushed up by the intestinal distension.

In diagnosing a case, we have always to work backwards from what we see to what we do not see, and in both these cases we find abdominal distension, which is a common symptom. We may then take a little trouble over this symptom, and inquire to what it is due. Distension of the abdomen may be due to several causes. The most common of all is distension by flatus; next to that in frequency comes distension by fluid; and, lastly, distension by the growth of some solid mass contained in the abdomen. Not infrequently, we find that the distension is of a double origin, and consists partly of an increased amount of gas in the intestines and partly of an increased amount of fluid in the peritoneal sac. Now, we may proceed to ask, why is gas present in the intestines at all? Well, gas is present in the intestines of healthy persons, first of all because air is swallowed, and although the oxygen of the air is rapidly absorbed, the nitrogen does not so quickly disappear, and a good deal of that passes into the intestine. Secondly, a good deal of gas is apt to be formed in the intestines by the decomposition of food, and more especially of those foods which contain a quantity of cellulose, for, in its decomposition in the intestine, this substance seems to give rise more particularly to marsh gas: these are the two principal sources of gas in the intestines. But the gas would be much more plentiful in the intestines if it were not for the fact that a large proportion of it is absorbed by the vessels. This absorption occurs, for some gases, with great rapidity. For example, it occurs very rapidly in the case of oxygen, and also in the case of sulphuretted hydrogen. Sulphuretted hydrogen, indeed, is absorbed so rapidly from the intestine that it may give rise to poisoning and death. This rapid absorption was denied by Claude Bernard, who stated that sulphuretted hydrogen could not be absorbed so rapidly from the intestine as to produce any general symptoms, because, he said, although no doubt it is absorbed quickly from the intestine, it is so rapidly excreted by the lungs that you never get any bad symptoms from it. Orfila, from previous experiments, had come to a different conclusion; and Dr. Cash and I, when working at the action of carminatives upon the gases of the intestine, found that sulphuretted hydrogen could be so quickly absorbed from the rectum and colon of an animal as to give rise to general poisoning. We therefore stated that a practice, at that time in vogue, of treating phthisis by injections of a mixture of carbonic acid with sulphuretted hydrogen, was not without danger. It was at that time supposed to be absolutely harmless; but, unfortunately, shortly after our paper was published, a case occurred of death through the absorption of sulphuretted hydrogen, which had been given as a cure in a case of phthisis.

You can readily see that if absorption be lessened in any way through interference, for example, with the general circulation, by disease of the heart, or through local interference with the circulation in the abdomen by disease of the liver, there will be a tendency to accumulation of gas and to flatulence. Now, we find that flatulence is a marked symptom both in diseases of the heart and of the liver. You will frequently find that patients who are suffering from mitral disease complain very much of flatulence, and to this kind of flatulence the term "heart-wind" has sometimes been given. In the first stages of that disease of the liver, known as cirrhosis, where the portal vessels are just beginning to be slightly compressed by the contracting hepatic tissue, we find that wind is very apt to come on; that the abdomen becomes much distended, and, at first sight, we are tempted to think that the patient is suffering from dropsy. On percussing the abdomen, however, the whole of the abdomen may be resonant; there may be no dulness even in the flanks, or in any dependent part of the abdomen, and so we come to the conclusion that the patient is suffering simply from flatulence. As the contraction of the tissues around the portal vein goes on, however, we find a further symptom; not only is absorption of wind diminished, but absorption of fluid is also interfered with. The arteries supplying the abdominal viscera still carry on the circulation vigorously, a free flow of blood takes place through the intestines, and a quantity of tissue juice is effused from the capillaries; but instead of this being taken up by the radicles of the portal vein and carried on into the general circulation, the veins being obstructed, absorption is imperfect, and so the fluid tends to collect in the abdomen, giving rise to an accumulation of fluid in the large lymphatic, or peritoneal sac; for the peritoneal sac, as you know, is simply a large lymph space. In this space the fluid accumulates, so that in the later stages of cirrhosis we have not only a great amount of wind, but a great deal of water; and patients will very often tell you, when they are in the first stage, that they themselves are afraid of water accumulating in the abdomen. Their fears are by no means unfounded, for, as a rule, the accumulation of wind is succeeded by the accumulation of water. Now, as I have just mentioned, this accumulation of wind and water has certain secondary effects. It tends to displace the diaphragm, to drive it upwards into the thorax; it interferes with the respiration, making the patient short of breath, and not infrequently it interferes with the heart, tending to make the patient giddy or even faint. You remember the position of the heart, diaphragm, stomach and intestines. Should the latter be distended by flatus, the diaphragm tends to be driven up, and if driven up by the distension of the abdomen it must needs displace the heart, and this displacement of the heart may give rise to certain circulatory symptoms, such as those of faintness. At the same time certain changes are produced in the size of the liver. In a normal condition of the liver the absolute dulness just comes to the sixth rib; but in the case of D. E. we found that the absolute dulness, instead of reaching the sixth, came up as far as the fourth rib, so that the position in which the man's diaphragm was standing was as I have mentioned, and it was this same displacement of the diaphragm that gave rise to the apparent diminution in the size of the liver in E. C.'s case.

We have now considered one at least of the most important causes of the distension which occurs in certain diseases of the liver, but there is another cause which must also be taken into account, that is, the possibility of increased circulation through the arterial system, viz. dilated arteries, as well as obstructed venules. If there is any irritant present in the abdominal cavity, it tends to cause dilatation of the arteries, and dropsy may occur without there being any very great obstruction to the backward passage of blood through the portal vein. This happens, for example, in cases of peritonitis, where there is no definite obstruction to the vein, but where the arteries become more dilated, as they always do in cases of inflammation, wherever the inflammation may be.

We may now turn from the symptom of distension to the other symptom which we found in E. C.'s case, and also in D. E.'s case, namely, of emaciation. You can readily see that such distension of the abdomen will tend to interfere mechanically with the taking of food, because pressure will be so exerted upon the stomach that it will not be able to take in food readily. But this is only one way in which interference with the liver tends to interfere with digestion in the stomach. It is well to remember that all the blood in the stomach must find its way through the liver before it reaches the general circulation, and if the circulation through the liver is obstructed, congestion of the stomach is likely to result. This congestion of the stomach is very apt, indeed, to show itself by vomiting, and by a catarrhal condition generally. The catarrh you judge of partly by the appearance of the tongue, which is frequently thickly coated, but you become more certain of the existence of catarrh by the actual evidence of the vomited matters. When a person has catarrh of his nose, or, as we generally term it, a cold in the head, you may diagnose the presence of this cold from the somewhat nasal tone which his voice takes; but if you go entirely by the nasal tone you might be wrong in diagnosing a cold in the head, or, as we may term it, a catarrh of the nasal passages, in a stranger. It might be that he had got polypi in his nose and not catarrh; but if you saw him blow his nose and a quantity of mucus came out, your diagnosis is certain—that man has a catarrh in his nose. If you find that a patient brings up a large quantity of mucus when he vomits, then you know he has catarrh of the stomach. This catarrh is what we frequently find in cases of cirrhosis of the liver, and it often evidences itself by a tendency to retch or vomit in the morning just after the patient gets out of bed, and to bring up a thin, watery, almost tasteless fluid, with thick ropy mucus. So much is this the case, that we very often diagnose a patient's habits by the fact that he brings up this mucus and watery matter in the morning when he rises. Therefore, when a patient complains of this symptom, you generally ask him what he takes at night before he goes to bed, because whisky and water for supper are very apt to produce vomiting in the morning. In cases of life assurance, in which many of you will be probably concerned, it is a good thing to know that you can sometimes get useful information regarding the habits of your patient without his suspecting it. Possibly some of you know that life assurance societies are very chary about taking the lives of those who are addicted to intemperance; but if you ask the man who is proposing to insure his life whether he is intemperate or not, the chances are that you will hear that he is very temperate indeed; and if you ask him how much alcohol in any shape he takes in the course of the day, you will find that he mentions a quantity well within the normal limits of a temperate man. But if you ask him, "Have you a good appetite in the morning," he says, "Oh dear no, I cannot eat my breakfast." "You are sometimes sick before you take your breakfast?" "Yes, I am sick, and I bring up a lot of thick stuff, and sometimes a lot of water; I am always sick in the morning, and never have any appetite for breakfast." Then you know that your patient is almost certainly suffering from intemperance. It is not invariable; you will find the symptom in some cases of chronic malaria, where the liver has been disturbed by residence in the tropics for a number of years, and in bad malarial fever we get the same symptoms, although the patient may be perfectly temperate. But these two conditions, viz. gastric catarrh and hepatic congestion, are almost the only ones where you get this sickness in the morning and want of appetite for breakfast. From this interference with the stomach we have a lessened amount of food taken, a diminished quantity of food digested, and consequently there is a tendency to emaciation. The same thing holds good for the intestines, and the mere pressure upon the intestines tends to prevent accumulation of materials within them; we frequently find that in cases of interference with the circulation through the liver, the bowels incline to be loose, often being opened three or four times a day, or even more. In this there is a liability to lessened absorption even of such food as has been digested, and also a tendency to emaciation. There was emaciation in both the cases I have referred to, but in one of them we got no jaundice, in the other jaundice was present to a marked degree.

Now, jaundice depends upon the presence of highly coloured matter in the tissues, and it reaches the tissues through the blood. When I was a student, the view was held that bile pigment was formed in the blood and was excreted by the liver. This view has now been given up, and it is now held that bile pigment is formed only in the liver. In my student days there were therefore two divisions of jaundice—one was called hæmatogenous and the other hepatogenous. The hæmatogenous jaundice was that due to increased formation of bile pigment within the blood and lessened excretion through the liver; hepatogenous jaundice was due entirely to the diminished excretion from the liver. This view of the hæmatogenous origin of jaundice was given up for a while, but it has now reappeared under a somewhat altered form. The altered form is, that we no longer consider that bile pigment is formed in the blood, but we do consider that alterations in the blood may lead to a very greatly increased formation of bile pigment in the liver; so that we may really get a kind of jaundice, the starting point of which lies in alterations in the blood. Although the pigment may not be formed directly in the vessels, yet it is formed from altered blood, and the alteration takes place in the liver; so that there is certainly some ground for the old view of hæmatogenous and hepatogenous jaundice. The hepatogenous jaundices are, however, much more frequent, and much more practically interesting, inasmuch as the hæmatogenous is generally associated with such severe blood changes that medical art has very little power over it, whereas over hepatogenous jaundice we are frequently able to exercise a great influence and to do in many cases a great deal of good.

Jaundice is generally due to interference with the flow of bile out from the liver, and this may be due to many causes. One of the most common causes is a catarrhal condition, either of the duodenum or of the bile ducts. This catarrhal condition thickens the mucous membrane of the duodenum and tends to obstruct the opening of the common bile duct; or the catarrh may be present by itself, and so plug the duct by a thick cork, as we may term it, of mucus. This catarrhal jaundice is generally recognised by its having very few symptoms. The patient does not emaciate, and there is very little to be found on examination except that perhaps the liver is a little larger and a little more tender than usual, so that pressure upon it makes the patient wince. Catarrhal jaundice, as a rule, runs a course of its own, and although you may do some good, I confess that I do not think a very great deal can be done for it. As a rule, catarrhal jaundice runs a course of about six weeks. You may get it cleared away in less than that time, but I have never been quite certain whether its disappearance in a shorter time was due to the remedies or simply to the course of the disease.

There are two special classes of catarrhal jaundice, namely—(1) that which is due to thickening of the duodenum itself; (2) that which is due to the presence of mucus in the duodenum. In the case where the catarrh is present in the duodenum, it usually begins in the stomach, spreads to the duodenum, and then involves the bile duct; and the symptoms you get in such cases are, that the patient for two or three days before the jaundice is a little sick, a little out of sorts, has not very much appetite, and feels a little qualmish. In the cases where it seems to begin in the bile duct itself, there are no symptoms whatever, and the patient goes out one fine morning, and he meets a friend, who says, "You are very yellow to-day." He goes back and looks in the glass, and finds that he is yellow, but if it were not for the yellowness he would be perfectly well; and he comes simply to get the yellowness removed. As a general rule, you give him a blue pill, or a pill containing either mercury or calomel. One generally gives a mercurial pill with some rhubarb, podophyllin, colocynth, or other purgative, and a saline aperient to follow. This I suppose sometimes does good; at any rate, it is the general treatment, and you may then prescribe some nitro-hydrochloric acid, bismuth, or salicylate of soda. All these drugs are used in cases of catarrhal jaundice; sometimes they do good and sometimes they do not.

Now, in the case under consideration, we had evidently two things to deal with. We had certainly obstruction to the bile ducts, and we had evidently obstruction to the radicles of the portal vein. The bile ducts might have been plugged by something else than a plug of mucus. Six weeks, as I have said, is the usual course for ordinary catarrhal jaundice, but you may get a plug consisting of a solid gall stone impacted in the gall bladder, that may remain a very long time. As a rule, however, such an impaction is preceded by a considerable amount of pain. Then, again, you may have a pressure exerted upon the gall bladder by something without. I shall read this case, because it is one of great interest; and I may tell you that my diagnosis was malignant disease of the head of the pancreas, because I found the swelling of the abdomen and this interference with the bile duct, which was clearly due to something that involved the bile duct and the radicles of the portal vein, not the portal vein alone, nor the bile duct alone, but the two together. In the case of the man in "Rahere," we had distension, emaciation, and symptoms of interference with the portal circulation, but there were no symptoms of interference with the bile duct. In a case of catarrhal jaundice we find symptoms of interference with the bile duct, but no symptoms of interference with the portal circulation. As a rule, in cases of impaction of a gall stone, there is interference with the bile duct, but no interference with the portal circulation. In the case which we are discussing, however, we have to deal with something that would interfere both with the portal circulation and with the bile duct.

It seemed to me, then, most probable that there would be some growth pressing upon the liver, affecting at the same time both the bile duct and the portal vein. This is met with not infrequently in cases of disease of the liver itself, where a malignant growth is present in the body of the liver, and this was what I thought was present before I examined the abdomen. In such a case, we would almost certainly have had a large projecting liver, probably nodulated on the surface. This was not present, and I did not find anything that was increasing the size of the liver, yet I thought it was increased in size; I came, therefore, to the conclusion that there was something pressing very much upon the portal vein and the bile duct, and also seriously interfering with nutrition, because the woman was very much emaciated. My diagnosis, therefore, was malignant disease of the head of the pancreas, which was pressing on the bile duct and on the portal vein.

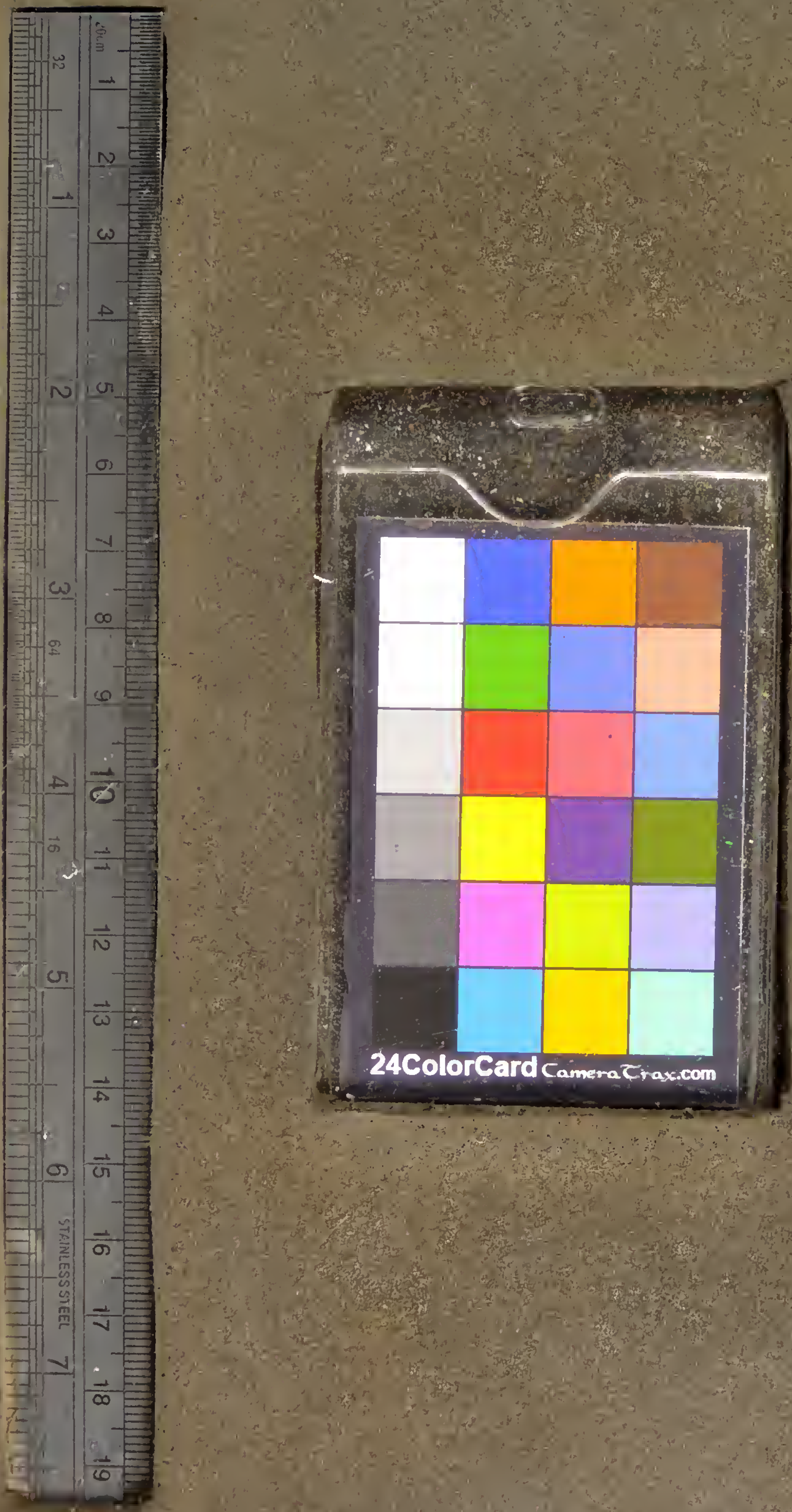
Now, you will see from the history of the case, and from the post-mortem examination, that although this was not altogether correct, yet the indications were to a great extent correct. What I ought to have done properly was to put an intermediate step as to what we really knew, or were almost certain was present, viz., that there was some growth pressing upon the bile duct and upon the portal vein at the same time, and then state as the next step—this is probably malignant disease of the head of the pancreas. I will say that there was a growth pressing upon the bile duct and portal vein, but whether the pancreas was involved I do not quite know. The head of the pancreas was hard, and a section will be made of it. Let me read the notes of the case.

E. C., æt. 55, married, was admitted complaining of weakness, jaundice, and pain in the back—weakness due to imperfect nutrition, jaundice due to pressure upon the bile duct. The pain in the back was not definitely explained. She was well until four months ago, when she sustained a severe mental shock concerning family affairs. Soon after this she noticed her motions white—interference either with the flow of bile or pancreatic juice into the intestines, because white motions do not always indicate interference with the flow of bile, but may be due to interference with the pancreatic juice. Her skin was becoming yellow. This clearly showed obstruction to the flow of bile. At the same time the urine became very dark in colour, and she began to have pain in the back, the darkness of the urine going with the yellowness of the skin. Jaundice came on gradually, and there had never been severe attacks of paroxysmal pain. This seemed to indicate that we had not to do with any gall stones, because in a gall stone the jaundice comes on, as a rule, very suddenly, from impaction of the gall stone in the duct. Since Christmas the abdomen has begun to swell. Vomiting has been very persistent. There is much difficulty in keeping down even fluids; never any blood in the vomit. She has lost flesh all the time. On admission she was deeply jaundiced and very emaciated, with very little appetite. There was a yellowish-white fur on the tongue, which was moist; there was a quantity of bile in the motions, which was a curious point. The abdomen was 38 in. round; dull everywhere in the umbilical region. Change of dulness from side to side was readily obtained. The liver dulness commenced under the lower border of the fifth rib in the right axillary line. The organ could be felt below the costal arch anywhere. No other organ felt. There was a little dulness in the lungs, with deficient respiration, and so on, but nothing of any great importance; the heart apex beat in the fourth space, no murmur. There is a considerable cloud of albumin. The abdomen was tapped, and nine pints of fluid deeply tinged with bile were removed. The patient was eased for a little while, but not for long, and she very quickly filled up again and sank.

At the post-mortem examination it was found that practically most of the organs were healthy; the abdomen contained a certain amount of fluid. But here is the interesting point—the great omentum was enormously infiltrated with new growth, the lesser omentum was almost equally infiltrated. The whole of the peritoneal surface was dotted with new growths, especially well marked in the pelvic region, and some of this growth had become ulcerated. The retroperitoneal glands were infiltrated, and the mesentery was shortened and contained much fat. The intestines were matted together by some scanty adhesions, which easily broke down, so that the small intestine was removed with no difficulty, but the cæcum was fastened down so as to cause some difficulty in getting it away, also the ascending colon. The gall bladder was not enlarged, but it contained 153 gall stones, although, note well, the woman had never had any symptoms of gall stone; and this is a point to be very carefully borne in mind, that you may have large numbers of gall stones in the gall bladder and never a symptom of gall stones at all. They varied from the size of a pin-head to that of a small marble, were brownish-black in colour; also some granular detritus. The wall of the gall bladder did not seem to be involved in the new growth surrounding it at its upper part and filling up the portal fissure. The duct and portal vein were both lost in the great infiltration of the lesser omentum, and it was this new growth that was pressing upon both the portal vein and the duct. So complete was this pressure that no bile could be squeezed into the duodenum. Immediately in the neighbourhood of the portal fissure the new growth had extended into the liver. There was a small round deposit on the surface of the right lobe. The surface of the liver was thickened and adherent. The weight of the liver was 70 oz.; it was enlarged, but not much, and full of bile. The pancreas did not seem to infiltrate, but a piece of it has been sent to the museum for microscopical examination.

Here, then, is a case which shows you very clearly how far we are able to diagnose correctly certain conditions connected with the liver, and how far also we are liable to be mistaken. The indications which were afforded by the jaundice, the distension, and the emaciation, clearly pointed to some growth interfering with the flow through the portal vein and through the hepatic duct. The emaciation indicated that the nature of this growth was malignant. The slow and gradual onset of the jaundice seemed to show that there was no gall stone present, although, as we found afterwards, gall stones were there. The slow growth would indicate, I ought to say, that the disease was not due to gall stones, and not due to impaction of the gall stone on the duct. This long continuance indicated that it was not of a catarrhal nature. I was practically driven to the conclusion that there was a growth somewhere in the portal fissure, and probably it was at the head of the pancreas. So far as the diagnosis was concerned, *i.e.* that there was a growth pressing upon the portal vein and upon the hepatic duct, it was correct; and the exact nature of this diagnosis was also correct, in so far as a malignant growth was diagnosed. But the supposition was, that this growth started in the head of the pancreas, and then pressed upon the portal vein and the hepatic duct, whereas the growth appears possibly to have started around the gall duct. It might have been due to the pressure of gall stones, but it might also have been due, and in all probability was due, to the presence of an ovarian cyst which had ruptured and had caused irritation through the peritoneal cavity; for the whole of the peritoneum and the whole of the abdominal cavity were studded with new growths.

In this case, therefore, we have a well-marked instance of how far we can diagnose, and how far we are liable to error. The question of treatment in such a case was, of course, limited to the amelioration of symptoms. All that we could do was simply to evacuate the fluid when it became so great as to distend the abdomen, to relieve the weakness by the administration of stimulants, to give such foods as could be kept down, and, where necessary, to ease the pain by morphine. More than that we could not do, but in some other cases we can do a great deal of good; the consideration of such cases we must postpone till another occasion.


STAINLESS STEEL
24ColorCard CameraTrax.com